

ABSTRACT OF THE DISCLOSURE

A method and apparatus for improving the transmission of a free-space optical communications signals through windows having surface imperfections. A void-filling material is applied to one or both surfaces of the window to fill any non-flat surface voids on those surfaces in areas through which an optical communications signal passes. In one embodiment, one or two substantially perfect optically translucent plates are mounted to the imperfect surface(s) of the window so as to capture the void-filling material between an inside surface of each optically translucent plate and the imperfect surfaces of the window. The void-filling material is selected to have an index of refraction that substantially matches an index of refraction for the window at an optical wavelength corresponding to the free-space optical communication signal. As a result, the adverse effects that would normally be caused to free-space optical communication signals that are passed through windows having surface imperfections are substantially eliminated.